

Appl. No.: 09/625,201
Amdt. dated 11/04/2005
Reply to Office action of June 28, 2005

REMARKS

This amendment is responsive to the Official Action dated June 28, 2005. Applicant would like to thank the Examiner for a timely and thorough review of the above-referenced patent application. In addition, Applicant appreciates the Examiner taking the time to conduct a telephone interview with Applicants' undersigned attorney. Claims 1-33 were previously pending in the application. Claims 1-33 have been rejected. Applicant respectfully traverses each of the rejections set forth in the Official Action. As described below, the cited references, alone or in combination, neither teach nor suggest the claimed invention. However, Applicant has amended Claims 24 and 25 to further clarify the claimed invention, as explained more fully below. As such, Applicant submits that the present set of claims is in condition for allowance and respectfully requests reconsideration of the present application. As discussed during the telephone interview, Examiner Burd is requested to contact Applicant's undersigned representative, however, if any issues should remain.

The Official Action rejected Claims 1-5 and 8-33 under 35 U.S.C. § 102(e) as being anticipated by US Patent No. 6,072,364 to Jeckeln ("Jeckeln"). (While the Official Action rejected Claims 1-5 and 8-33 under 35 U.S.C. § 102(e) as being anticipated by Jeckeln, Applicant believes that there is a typographical error in the Official Action and that intention was to reject Claims 1-5 and 8-27 under 35 U.S.C. § 102(e) as being anticipated by Jeckeln.) As explained below, Applicant respectfully submits that independent Claim 1, and by dependency dependent Claims 2-5 and 8-27 are patentably distinct from the Jeckeln patent.

Independent Claim 1 is directed to a method for defining the relationship between frequency and amplitude of a pulse function modulating a data stream. In this regard, the method comprises defining cost functions representing the deviation of a respective cost parameter from the associated desired system criterion, and defining the amplitude of the pulse function over a range of frequencies in dependence on the cost functions and on the distortion for which compensation is to be made. As such, the pulse function used for modulation of the data stream is predistorted to compensate for distortion introduced by one or more components within a transmitter.

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Jeckeln describes a method and device for adaptively predistorting a signal to be transmitted. Jeckeln does not teach or suggest defining the amplitude of a pulse function over a range of frequencies in dependence on distortion, with the pulse function modulating a data stream, as recited in Claim 1. The Official Action states that Jeckeln discloses a method of defining a relationship between frequency and amplitude of a pulse function for acting on a data stream. Applicant respectfully disagrees with this assertion for at least the following reasons.

Claim 1 recites that the pulse function is defined in dependence on and to compensate for distortion (i.e., the pulse function is predistorted). Claim 1 further recites that the predistorted pulse function is used to modulate the data stream. Jeckeln does not teach or suggest that a pulse stream used for modulation is predistorted. In contrast, Jeckeln discloses that predistortion is applied to a modulated signal (see Col. 8, lines 54-56; Fig. 1). Applicant respectfully submits that predistorting a modulated signal is not the same as predistorting a pulse function used to modulate a signal.

Claim 1 further recites defining the amplitude of the pulse function over a range of frequencies. The present application teaches that data that defines the amplitude of the pulse function over a range of frequencies is stored in a look-up table, and the output of the lookup table is used to modulate the data stream (see Page 15, lines 10-26). The present application further teaches that the data in the look-up table only needs to be calculated once for each type of device, thus the data defining the amplitude of the pulse function over a range of frequencies is predetermined and static (see Page 3, lines 1-7; Page 15, lines 28-29). The present application further teaches that the predistortion data in the look-up table is based upon known (i.e., predetermined) component distortion (see Page 2, line 28 to Page 3, line 3). In contrast, Jeckeln discloses that the predistortion is determined and updated based on real-time (i.e., dynamic) modeling in response to feedback signals (see Abstract; Fig. 1; Claim 1). Applicant respectfully submits that dynamic, feedback-based determination of predistortion values is not the same as static predetermination of distortion values.

For each of the foregoing reasons, it is respectfully submitted that the rejection of independent Claim 1 is respectfully overcome. Since Claims 2-5 and 8-27 depend from independent Claim 1, these dependent claims are also patentably distinct from Jeckeln for at least

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the reasons described above. Thus, it is respectfully submitted that the rejection of Claims 2-5 and 8-27 is respectfully overcome.

The Official Action rejected Claims 29-32 under 35 U.S.C. § 102(b) as being anticipated by US Patent No. 5,572,516 to Miya ("Miya"). Applicant respectfully submits that Claims 29-31 and independent Claim 32 are patentably distinct from the Miya patent. Miya describes a dual mode communication device. Claims 29-31 are dependent on independent Claim 1. As discussed above, independent Claim 1 recites a pulse function that is used to modulate a data stream and that is defined in dependence on and to compensate for distortion, with the amplitude of the pulse function defined over a range of frequencies. Similarly, independent Claim 32 recites a pulse function that is used to shape a data stream and that is shaped in dependence on and to compensate for distortion. However, Miya does not teach or suggest defining a pulse function for modulating a data stream to compensate for distortion. In fact, Miya does not teach or suggest any method of compensating for distortion. It is therefore respectfully submitted that the rejection of Claims 29-31 and independent Claim 32 is respectfully overcome.

The Official Action rejected Claims 6 and 7 under 35 U.S.C. § 103(a) as being anticipated by Jeckeln in view of US Patent No. 5,070,254 to Summers ("Summers"). Applicant respectfully submits that Claims 6 and 7 are patentably distinct from the Jeckeln and Summers patents. Claims 6 and 7 are dependent on independent Claim 1. As discussed above, independent Claim 1 recites a pulse function that is used to modulate a data stream and that is defined in dependence on and to compensate for distortion, with the amplitude of the pulse function defined over a range of frequencies. However, neither Jeckeln nor Summers, alone or in combination, teach or suggest defining a pulse function for modulating a data stream to compensate for distortion. It is therefore respectfully submitted that the rejection of Claims 6 and 7 is respectfully overcome.

The Official Action rejected Claims 28 and 33 under 35 U.S.C. § 103(a) as being anticipated by Miya in view of Jeckeln. Applicant respectfully submits that independent Claim 28 and Claim 33 are patentably distinct from the Miya and Jeckeln patents. Independent Claim 28 recites a pulse function that is used to shape a data stream in response to distortion from a component. However, neither Miya nor Jeckeln, alone or in combination, teach or suggest

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defining a pulse function for shaping a data stream to compensate for distortion. Claim 33 is dependent on independent Claim 1. As discussed above, independent Claim 1 recites a pulse function that is used to modulate a data stream and that is defined in dependence on and to compensate for distortion, with the amplitude of the pulse function defined over a range of frequencies. However, as discussed above, neither Miya nor Jeckeln, alone or in combination, teach or suggest defining a pulse function for modulating a data stream to compensate for distortion. It is therefore respectfully submitted that the rejection of independent Claim 32 and Claim 33 is respectfully overcome.

The Official Action rejected Claims 24-27 under 35 U.S.C. § 112 as failing to comply with the enablement requirement. Claims 24 and 25 have been amended to further clarify the claimed invention, in response to the rejection of Claims 24-27 under 35 U.S.C. § 112 for failing to comply with the enablement requirement. The means-plus-function language of Claims 24 and 25 has been replaced.

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CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that all of the claims of the present application are in condition for allowance. It is respectfully requested that a Notice of Allowance be issued in due course. Examiner Burd is encouraged to contact Applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

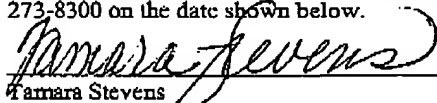


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